



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/083,114	02/27/2002	Ichiro Okajima	220118US2	3393
22850	7590	01/10/2008		
OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314				
EXAMINER				
CHOUDHURY, AZIZUL Q				
ART UNIT		PAPER NUMBER		
2145				
NOTIFICATION DATE		DELIVERY MODE		
01/10/2008		ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentdocket@oblon.com
oblonpat@oblon.com
jgardner@oblon.com

Office Action Summary

Application No.

10/083,114

Applicant(s)

OKAJIMA ET AL.

Examiner

AZIZUL CHOUDHURY

Art Unit

2145

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10/26/07.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3, 6-8, 11, 13, 15-18, 20-23, 25, 27 and 29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 6-8, 11, 13, 15-18, 20-23, 25, 27 and 29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-949)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

Detailed Action

This office action is in response to the correspondence received on October 26, 2007.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 6-8, 11, 13, 15-18, 20-23, 25, 27 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wang, H.J. et al in view of Hsu (US Patent No: US006363319B1), hereafter referred to as Wang and Hsu, respectively.

1. With regards to claims 1 and 6, Wang teaches through Hsu, a link manager comprising: detecting means for detecting a link installation (p. 54, column 2, lines 31-35 and p. 55, Table 2 and p. 59, column 1, lines 14-18, Wang); managing means for defining a plurality of link metrics indicating characteristics of each said link detected and managing data corresponding to said respective link metrics on a table (p. 54, column 2, lines 31-35 and p. 55, Table 2, Wang); link metric rank assigning means for assigning ranks to said respective link metrics, based on a predetermined preference (p. 55, column 2, lines 33-35, Wang); data rank assigning means for assigning ranks to the data corresponding to said respective link metrics; and selecting means for selecting a link by analyzing each link based on each individual stored (constant and variable link)

metric in order of rank, and selecting a link corresponding to a record having data with a highest rank thus assigned, at a link metric with a highest rank (p. 53, column 2, lines 42-45 and p. 55, column 2, lines 17-28 and p. 56, column 1, lines 28-37, Wang), wherein said selecting means selects a link corresponding to a record having data with a highest rank thus assigned, at a link metric with a next highest rank, when there exists a plurality of records having data with the highest rank thus assigned.

While Wang teaches the selection of links based on metric ratings, Wang does not explicitly cite the claimed trait of *selecting means selects a link corresponding to a record having data with a highest rank thus assigned, at a link metric with a next highest rank, when there exists a plurality of records having data with the highest rank thus assigned*.

In the same field of endeavor, Hsu also teaches a route selection design based on metrics (see column 1, lines 42-48, Hsu). Within Hsu's disclosure it is taught, "in the event of equal cost paths, use the overall path bandwidth from source to destination as a tie-breaker" (see column 10, lines 52-53, Hsu). This is deemed equivalent to the claimed, *selecting means selects a link corresponding to a record having data with a highest rank thus assigned, at a link metric with a next highest rank, when there exists a plurality of records having data with the highest rank thus assigned*. Therefore, it would have been obvious to one skilled in the art, during the time of the invention, to have combined the teachings of Wang with those of Hsu, for the purpose of selecting the optimal path (see column 1, lines 42-48, Hsu).

2. With regards to claims 2 and 7, Wang teaches through Hsu the link manager, wherein said managing means generates a record comprised of the data corresponding to said respective link metrics, for each link on said table (p. 54, column 2, lines 31-35 and p. 55, Table 2, Wang).

3. With regards to claims 3 and 8, Wang teaches through Hsu, the link manager, wherein when a new link corresponding to neither said record is detected, said managing means generates a record corresponding to said new link and records data corresponding to link metrics of said link and wherein when a link corresponding to either said record becomes undetectable, said managing means deletes said record (p. 59, column 1, lines 14-18 and p. 58, column 2, lines 3-4 and p. 59, column 1, lines 28-29, Wang).

4. With regards to claim 11, Wang teaches through Hsu, a computer program of the product including a computer storage medium with a computer program code mechanism stored therein which when executed by a computer causes the computer to perform a method of link management comprising steps of: detecting a link installation (p. 54, column 2, lines 31-35 and p. 55, Table 2 and p. 59, column 1, lines 14-18, Wang); defining a plurality of link metrics indicating characteristics of each said link detected and managing data corresponding to said respective link metrics on a table (p. 54, column 2, lines 31-35 and p. 55, Table 2, Wang); a process of generating a record comprised of the data corresponding to said respective link metrics, for each link on

said table (p. 54, column 2, lines 31-35 and p. 55, Table 2, Wang); assigning ranks to said respective link metrics, based on a predetermined preference (p. 55, column 2, lines 33-35, Wang); assigning ranks to the data corresponding to said respective link metrics; and when said predetermined preference is given, analyzing each link based on each individual metric in the ranking order of the respective metrics and selecting a link corresponding to a record having data with a highest rank thus assigned, at a link metric with a highest rank (p. 55, column 2, lines 17-28 and p. 56, column 1, lines 28-37, Wang), and selecting a link corresponding to a record having data with a highest rank thus assigned, at a link metric with a next highest rank, when there exists a plurality of records having data with the highest rank thus assigned.

While Wang teaches the selection of links based on metric ratings, Wang does not explicitly cite the claimed trait of *selecting means selects a link corresponding to a record having data with a highest rank thus assigned, at a link metric with a next highest rank, when there exists a plurality of records having data with the highest rank thus assigned*.

In the same field of endeavor, Hsu also teaches a route selection design based on metrics (see column 1, lines 42-48, Hsu). Within Hsu's disclosure it is taught, "in the event of equal cost paths, use the overall path bandwidth from source to destination as a tie-breaker" (see column 10, lines 52-53, Hsu). This is deemed equivalent to the claimed, *selecting means selects a link corresponding to a record having data with a highest rank thus assigned, at a link metric with a next highest rank, when there exists a plurality of records having data with the highest rank thus assigned*. Therefore, it would

have been obvious to one skilled in the art, during the time of the invention, to have combined the teachings of Wang with those of Hsu, for the purpose of selecting the optimal path (see column 1, lines 42-48, Hsu).

5. With regards to claim 13, Wang teaches through Hsu, the computer program product, which comprises a process wherein when a new link corresponding to neither said record is detected, a record corresponding to said new link is generated and data corresponding to link metrics of said link is recorded and wherein when a link corresponding to either said record becomes undetectable, said record is deleted (p. 59, column 1, lines 14-18 and p. 58, column 2, lines 3-4 and p. 59, column 1, lines 28-29 and p. 58, column 1, lines 1-14, Wang).

6. With regards to claim 15, Wang teaches through Hsu, a link manager comprising: detecting means for detecting a link installation (p. 54, column 2, lines 31-35 and p. 55, Table 2 and p. 59, column 1, lines 14-18); managing means for defining a plurality of constant link metrics and variable link metrics (p. 56, column 1, lines 38-49), each indicating characteristics of each said link detected and managing data corresponding to said respective link metrics on a table, said managing means monitoring the variable link metrics which vary over time (p. 54, column 2, lines 31-35 and p. 55, Table 2); and selecting means for selecting a link by analyzing each link based on each individual stored constant and variable link metric in order of rank, and selecting a link corresponding to a record having data with a highest rank thus assigned, at a constant

or variable link metric with a highest rank (p. 55, column 2, lines 17-28 and p. 56, column 1, lines 28-37), wherein said selecting means selects a link corresponding to a record having data with a highest rank thus assigned, at a link metric with a next highest rank, when there exists a plurality of records having data with the highest rank thus assigned.

While Wang teaches the selection of links based on metric ratings, Wang does not explicitly cite the claimed trait of *selecting means selects a link corresponding to a record having data with a highest rank thus assigned, at a link metric with a next highest rank, when there exists a plurality of records having data with the highest rank thus assigned*.

In the same field of endeavor, Hsu also teaches a route selection design based on metrics (see column 1, lines 42-48, Hsu). Within Hsu's disclosure it is taught, "in the event of equal cost paths, use the overall path bandwidth from source to destination as a tie-breaker" (see column 10, lines 52-53, Hsu). This is deemed equivalent to the claimed, *selecting means selects a link corresponding to a record having data with a highest rank thus assigned, at a link metric with a next highest rank, when there exists a plurality of records having data with the highest rank thus assigned*. Therefore, it would have been obvious to one skilled in the art, during the time of the invention, to have combined the teachings of Wang with those of Hsu, for the purpose of selecting the optimal path (see column 1, lines 42-48, Hsu).

7. With regards to claim 16, Wang teaches through Hsu, the link manager, wherein said managing means generates a record comprised of the data corresponding to said respective constant and variable link metrics, for each link on said table (p. 54, column 2, lines 31-35 and p. 55, Table 2, Wang).

8. With regards to claim 17, Wang teaches through Hsu, the link manager, wherein when a new link corresponding to neither said record is detected, said managing means generates a record corresponding to said new link and records data corresponding to constant and variable link metrics of said link and wherein when a link corresponding to either said record becomes undetectable, said managing means deletes said record (p. 59, column 1, lines 14-18 and p. 58, column 2, lines 3-4 and p. 59, column 1, lines 28-29, Wang).

9. With regards to claim 18, Wang teaches through Hsu, the link manager, which comprises: link metric rank assigning means for assigning ranks to said constant and variable link metrics, based on a predetermined preference (p. 55, column 2, lines 33-35); and data rank assigning means for assigning ranks to the data corresponding to said constant and variable link metrics, wherein when said predetermined preference is given, said selecting means selects a link corresponding to a record having data with a highest rank thus assigned, at a constant or variable link metric with a highest rank (p. 55, column 2, lines 17-28 and p. 56, column 2, lines 28-37, Wang).

10. With regards to claim 20, Wang teaches through Hsu, a link management method comprising: a detecting step of detecting a link installation (p. 54, column 2, lines 31-35 and p. 55, Table 2 and p. 59, column 1, lines 14-18, Wang); a managing step of defining a plurality of constant link metrics and variable link metrics (p. 56, column 1, lines 38-49, Wang), each indicating characteristics of each said link detected and managing data corresponding to said respective link metrics on a table, said managing means monitoring the variable link metrics which vary over time (p. 54, column 2, lines 31-35 and p. 55, Table 2, Wang); and a selecting step of selecting a link by analyzing each link based on each individual stored constant and variable metric in order of rank, and selecting a link corresponding to a record having data with a highest rank thus assigned, at a constant or variable link metric with a highest rank (p. 55, column 2, lines 17-28 and p. 56, column 1, lines 28-37, Wang), wherein said selecting means selects a link corresponding to a record having data with a highest rank thus assigned, at a link metric with a next highest rank, when there exists a plurality of records having data with the highest rank thus assigned.

While Wang teaches the selection of links based on metric ratings, Wang does not explicitly cite the claimed trait of *selecting means selects a link corresponding to a record having data with a highest rank thus assigned, at a link metric with a next highest rank, when there exists a plurality of records having data with the highest rank thus assigned*.

In the same field of endeavor, Hsu also teaches a route selection design based on metrics (see column 1, lines 42-48, Hsu). Within Hsu's disclosure it is taught, "in the

event of equal cost paths, use the overall path bandwidth from source to destination as a tie-breaker" (see column 10, lines 52-53, Hsu). This is deemed equivalent to the claimed, *selecting means selects a link corresponding to a record having data with a highest rank thus assigned, at a link metric with a next highest rank, when there exists a plurality of records having data with the highest rank thus assigned*. Therefore, it would have been obvious to one skilled in the art, during the time of the invention, to have combined the teachings of Wang with those of Hsu, for the purpose of selecting the optimal path (see column 1, lines 42-48, Hsu).

11. With regards to claim 21, Wang teaches through Hsu, the link management method, which comprises a step of generating a record comprised of the data corresponding to said respective constant and variable link metrics, for each link on said table (p. 54, column 2, lines 31-35 and p. 55, Table 2, Wang).

12. With regards to claim 22, Wang teaches through Hsu, the link management method, which comprises a step wherein when a new link corresponding to neither said record is detected, a record corresponding to said new link is generated and data corresponding to constant and variable link metrics of said link is recorded and wherein when a link corresponding to either said record becomes undetectable, said record is deleted (p. 59, column 1, lines 14-18 and p. 58, column 2, lines 3-4 and p. 59, column 1, lines 28-29, Wang).

13. With regards to claim 23, Wang teaches through Hsu, the link management method, which comprises: a step of assigning ranks to said constant and variable link metrics, based on a predetermined preference (p. 55, column 2, lines 33-35); and a step of assigning ranks to the data corresponding to said constant and variable link metrics, wherein said selecting step comprises a step of, when said predetermined preference is given, selecting a link corresponding to a record having data with a highest rank thus assigned, at a constant or variable link metric with a highest rank (p. 55, column 2, lines 17-28 and p. 56, column 1, lines 28-37, Wang).

14. With regards to claim 25, Wang teaches through Hsu, the computer program product including a computer storage medium with a computer program code mechanism stored therein, which when executed by a computer causes the computer to perform a method of link management, comprising steps of: detecting a link installation (p. 54, column 2, lines 31-35 and p. 55, Table 2 and p. 59, column 1, lines 14-18, Wang); defining a plurality of constant link metric and variable link metrics (p. 56, column 1, lines 38-49, Wang), each indicating characteristics of each said link detected and managing data corresponding to said respective link metrics on a table (p. 54, column 2, lines 31-35 and p. 55, Table 2, Wang), and monitoring the variable link metrics which vary over time (p. 53, column 2, lines 42-45, Wang); a process of generating a record comprised of the data corresponding to said respective constant and variable link metrics, for each link on said table; assigning ranks to said respective link metrics, based on a predetermined preference; assigning ranks to the data

corresponding to said respective constant and variable link metrics; and when said predetermined preference is given (p. 55, column 2, lines 33-35, Wang); analyzing each link based on each individual metric in the ranking order of the respective constant and variable metrics and selecting a link corresponding to a record having data with a highest rank thus assigned, at a constant or variable link metric with a highest rank (p. 55, column 2, lines 17-28 and p. 56, column 1, lines 28-37, Wang), and selecting a link corresponding to a record having data with a highest rank thus assigned, at a link metric with a next highest rank, when there exists a plurality of records having data with the highest rank thus assigned.

While Wang teaches the selection of links based on metric ratings, Wang does not explicitly cite the claimed trait of *selecting means selects a link corresponding to a record having data with a highest rank thus assigned, at a link metric with a next highest rank, when there exists a plurality of records having data with the highest rank thus assigned*.

In the same field of endeavor, Hsu also teaches a route selection design based on metrics (see column 1, lines 42-48, Hsu). Within Hsu's disclosure it is taught, "in the event of equal cost paths, use the overall path bandwidth from source to destination as a tie-breaker" (see column 10, lines 52-53, Hsu). This is deemed equivalent to the claimed, *selecting means selects a link corresponding to a record having data with a highest rank thus assigned, at a link metric with a next highest rank, when there exists a plurality of records having data with the highest rank thus assigned*. Therefore, it would have been obvious to one skilled in the art, during the time of the invention, to have

combined the teachings of Wang with those of Hsu, for the purpose of selecting the optimal path (see column 1, lines 42-48, Hsu).

15. With regards to claim 27, Wang teaches through Hsu, the computer program product, which comprises a process wherein when a new link corresponding to neither said record is detected, a record corresponding to said new link is generated and data corresponding to constant and variable link metrics of said link is recorded and wherein when a link corresponding to either said record becomes undetectable, said record is deleted (p. 59, column 1, lines 14-18 and p. 58, column 2, lines 3-4 and p. 59, column 1, lines 28-29 and p. 58, column 1, lines 1-14, Wang).

16. With regards to claim 29, Wang teaches through Hsu, a link manager comprising: a detector configured to detect a link installation (p. 54, column 2, lines 31-35 and p. 55, Table 2 and p. 59, column 1, lines 14-18, Wang); a processor configured to define a plurality of constant link metrics and variable link metrics (p. 56, column 1, lines 38-49, Wang), each indicating characteristics of each said link detected and managing data corresponding to said respective link metrics on a table, said managing means monitoring the variable link metrics which vary over time (p. 54, column 2, lines 31-35 and p. 55, Table 2, Wang); and a processor configured to select a link by analyzing each link based on each individual stored constant and variable link metric in order of rank, and selecting a link corresponding to a record having data with a highest rank thus assigned, at a constant or variable link metric with a highest rank (p. 55, column 2, lines

17-28 and p. 56, column 1, lines 28-37, Wang), wherein said selecting means selects a link corresponding to a record having data with a highest rank thus assigned, at a link metric with a next highest rank, when there exists a plurality of records having data with the highest rank thus assigned.

While Wang teaches the selection of links based on metric ratings, Wang does not explicitly cite the claimed trait of *selecting means selects a link corresponding to a record having data with a highest rank thus assigned, at a link metric with a next highest rank, when there exists a plurality of records having data with the highest rank thus assigned*.

In the same field of endeavor, Hsu also teaches a route selection design based on metrics (see column 1, lines 42-48, Hsu). Within Hsu's disclosure it is taught, "in the event of equal cost paths, use the overall path bandwidth from source to destination as a tie-breaker" (see column 10, lines 52-53, Hsu). This is deemed equivalent to the claimed, *selecting means selects a link corresponding to a record having data with a highest rank thus assigned, at a link metric with a next highest rank, when there exists a plurality of records having data with the highest rank thus assigned*. Therefore, it would have been obvious to one skilled in the art, during the time of the invention, to have combined the teachings of Wang with those of Hsu, for the purpose of selecting the optimal path (see column 1, lines 42-48, Hsu).

17. The obviousness motivation applied to claims 1, 6, 11, 15, 20, 25, and 29 are applicable to their respective dependent claims.

Response to Remarks

The correspondence received on October 26, 2007 has been carefully examined but is not deemed fully persuasive. Applicant's arguments with respect to claims 1-3, 6-8, 11, 13, 15-18, 20-23, 25, 27 and 29 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to AZIZUL CHOUDHURY whose telephone number is (571)272-3909. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Cardone can be reached on (571) 272-3933. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AC

/Jason D Cardone/
Supervisory Patent Examiner, Art Unit 2145